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(74) Agents: VINCENT, Lester, J. et al.; Blakely, Sokoloff, Taylor & Zafman LLP, 7th floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025 (US).

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(72) Inventors; and

(75) Inventors/Applicants (for US only): LEE, Chang-Hee [KR/KR]; 110-102 Hanwol Apt., Shinsung-dong, Yuseong-gu, Taejeon (KR). **LIM, Dong-Sung** [KR/KR]; 105-1703 Expo Apt., Jeonmin-dong, Yuseong, Daejeon 305-761 (KR).

(57) Abstract: Various methods and apparatuses are described for a wavelength division multiplexing passive optical network (WDM-PON) that performs bi-directional communication. The WDM-PON may include two or more remote distribution nodes in between a central office and the most distant optical network unit. Each remote distribution node is located in a physically separate location. A first remote distribution node has two or more optical network units connected to the first remote distribution node. Each remote node separates one or more wavelength channels from a composite optical signal distributed through that remote distribution node.



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